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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/927,601 | 08/10/2001 | Jani Ekman | 930.336USW1 | 8153 |

32294 7590 10/05/2004

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| EXAMINER | |
|---|---|
| CHOW, CHARLES CHIANG | |
| **ART UNIT** | **PAPER NUMBER** |
| 2685 | |

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/927,601 | EKMAN ET AL. | |
| | Examiner | Art Unit | |
| | Charles Chow | 2685 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

**Detailed Action**
(Response to RCE, 3/29/04)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3, 8-10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers et al. (US 6,539,237 B1) in view of Haga (US 6,366,576 B1).

Regarding **claim 1**, Sayers et al. (Sayers) teaches a cellular communication network (a wireless GSM system having integrated public and private network, col. 7, lines 17-26, Fig. 1-4, Fig, 15), comprising plurality of gateways (gateway 42-1 to 42-G, in Fig. 2, Fig. 4; and in col. 9, lines 42-45) for controlling cells in the cellular communications network (the controlling of cells in networks PSTN 26, ISDN 28, PBX 43, LAN in Fig. 2, Fig. 4; the cells 11, 11', 11'-1, 11'-2 in Fig. 1), the gateways being arranged to receive RF information from at least one mobile station in the network (the mobile station 4 in private network can communicate with public network 8, via gateways 42, through RF of the base transceiver station PBTS 27-1I 27-p, hub 23, router 33, Fig. 2; col. 10, lines 19-24; and the gateways 42 provides the line interface and transcoding functions to PSTN, ISDN, PBX, Fig. 4, col. 11, lines 37-43), wherein each gateway includes means for generating a handover required indication for a call in which the gateway is engaged and including control information (the gateway receives non-standard message for handover, and gateway converts the non-standard message into appropriate handover message for public network in col. 23, lines 62-67; the

means for forwarding a generated handover message from the packet network interface as a nonstandard packet network message indicating a handover request, col. 27, lines 62-67; the handover in the wireless packet IP call for public GSM and private networks, abstract; the intra-private network handover, inter-private network handover, the handover between private and public network in col. 23, lines 6-16), and packet generating means for generating a packet addressed to said gatekeeper including control information comprising a candidate identity and address of alternative cell to which the call could possibly be transferred (the call control message from serving P-BTS to target P-BTS, having handover information indicating P-BTS identifier and called party number, for possibly call transfer in col. 27, lines 50-61; using BTS ID for handover in col. 23, lines 43-50; the candidate calculation performed at P-BTS in col. 23, lines 18-42, the gatekeeper function is performed by P-BTS for the call transferring in col. 16-18), the gatekeeper including means for generating a packet for sending handover request for handing over the call to one of the handover candidate cell, alternative cells (the P-BTS gatekeeper passing a handover request to packet data interface, and generating handover location request, col. 27, lines 50-67). Sayers fails to teach the gatekeeper connected to the gateway by a switched packet path; the transmitting of candidate list to gatekeeper for handover; the gatekeeper includes selection means for selecting one of the alternative cells in the candidate list. However, Haga teaches the gatekeeper connected to the gateway by a switched packet path (the gatekeeper GK is connected to GW1-GW2, Fig. 1-2, in the packet, switched, network/intranet network, Fig. 1-4, Fig. 6, col. 3, lines 18-67), the transmitting of candidate list to gatekeeper for handover (automatic updating gateway routing table when each time a new gateway is introduced into

the network, for the automatic cost effective call routing, for the receiving of new candidate gateway for the cost effective optimized call routing, handover for optimizing call routing, col. 2, lines 29-34), the call routing, handover call, between a terminal in first telecommunication network and any terminal in an external telecommunication network, for the optimizing call routing, call handover, through different gateway, in different countries (abstract, Fig. 1-6), the gatekeeper includes selection means for selecting one of the alternative gateways, in the candidate list (the gatekeeper selecting different gateway for automatic load distribution in col. 6, lines 3-12, the gatekeeper has database which contains the gateway routing table (Fig. 2-5; col. 3, lines 49-67; the gatekeeper selects the route path through gateway in Sweden, col. 4, lines 32-50). Sayers teaches the handover between public and private network (col. 23, lines 5-16). Haga teaches the gatekeeper for optimizing routing path, handover, by selecting gateway in different network in different country, for the cost effective call routing (abstract, col. 2, lines 29-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers with Haga's gatekeeper, gateway, such that the call could be transferred to a different gateway, for the optimal cost effective routing.

Regarding **claim 2,** Sayers teaches gatekeeper 41 is the common control for gateways 42-1/42-G (as shown in Fig. 2, 4). Regarding the packet generated by said gatekeeper is addressed to one of said gateways in said zone, Sayers has shown above the gatekeeper (P-BTS 27) generates packet to public network 8, via gateway 42-1/42-G (col. 10, lines 19-24). Sayers teaches the packet interface layer for formatting an external control message which

has alias identifier, intended for transmission across the packet network (in col. 25, col. 56-67).

Regarding **claim 3**, Sayers teaches an interface for connection to an external, public, network which includes an external controller (the external formed by gateway 421/42-6, P-BTS 27, hub 23, and router 33, as shown in Fig. 2), for the packet generated by gatekeeper is addressed to said controller (as shown above, in claim 2, col. 25, lines 56-67). In Fig. 1, Sayer teaches the external controller BSC 16, for private networks.

Regarding **claim 8**, Sayers teaches a method of effecting handoff of a call in which at least on mobile station is engaged in a cellular communication network comprising plurality of cells (a cellular communication network in col. 7, lines 17-26; a wireless GSM system has private and public network, integrated wireless system, in Fig. 1-4 and Fig, 15; plurality of cells 11, 11', 11'-1, 11'-2 in Fig. 1; gateways 42-1 to 42-G, in Fig. 2, Fig. 4; and in col. 9, lines 42-45), the method comprising receiving from mobile station a handoff required indication indicating that handover is needed from a source gateway to target P-BTS (the handoff between private PBX 43 and public network PSTN 26, Fig. 4, abstract; the handover method in Fig. 14, having handover Req, for handing over from old P-BTS to new P_BTS; the gateway receives non-standard message for handover, and gateway converts the non-standard message into appropriate handover message for public network in col. 23, lines 62-67; the means for forwarding a generated handover message from the packet network interface as a nonstandard packet network message indicating a handover request, col. 27, lines 62-67; the handover in the wireless packet IP call for public GSM and private networks, abstract; the intra-private network handover, inter-private network handover, the handover

between private and public network in col. 23, lines 6-16), formulating at the source gateway a packet address to the source gatekeeper, said packet including control information comprising candidate list identifying possible alternative gateway (the call control message from serving P-BTS to target P-BTS, having handover information indicating P-BTS identifier and called party number, for possibly call transfer in col. 27, lines 50-61; using BTS ID for handover in col. 23, lines 43-50; the candidate calculation performed at P-BTS in col. 23, lines 18-42, the gatekeeper function is performed by P-BTS for the call transferring in col. 16-18), the gatekeeper including means for generating a packet for sending handover request for handing over the call to one of the handover candidate cell, alternative cells (the P-BTS gatekeeper passing a handover request to packet data interface, and generating handover location request, col. 27, lines 50-67). Sayers fails to teach the target gateway in handover. However, teaches the target gateway for handover (the call routing, transferring, to selected cost effective target gateway based on the gateway table (col. 2, lines 29-34; col. 6, lines 3-12, col. 3, lines 49-67; the gatekeeper selects the gateway and routing call through Sweden, col. 4, lines 32-50), at the source gatekeeper, determining to which one of said target gateways within said candidate list a handoff request should be forward and formulating a packet for forwarding to said target gateway (the gatekeeper uses, formulating, the corresponding callSignalAddress entry, to route the call to the gateway which is residing in the same country. If gatekeeper unable to find a matching country code in the gateway table, the gatekeeper uses the default callSignalAddress in the table in col. 4,lines 5-17;the gatekeeper selecting different gateway for automatic load distribution in col. 6, lines 3-12, the gatekeeper has database which contains the gateway routing table (Fig.

2-5; col. 3, lines 49-67; the gatekeeper selects the route path through gateway in Sweden, col. 4, lines 32-50). Sayers teaches the handover between public and private network (col. 23, lines 5-16). Haga teaches the gatekeeper for optimizing routing path, handover, by selecting gateway in different network in different country, for the cost effective call routing (abstract, col. 2, lines 29-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers with Haga's gatekeeper, gateway, such that the call could be transferred to a different gateway, for the optimal cost effective routing.

Regarding **claim 9**, Sayers has taught above in claim 2 the method for the same zone (inter private network handover), and the packet generated by source gatekeeper P-BTS addressing to target gatekeeper P-BTS.

Regarding **claim 10**, Sayers has taught above in claim 3 the method for the handover to be effected to an external network, between private and public network ( col. 25, lines 44-67). Referring to Sayers' base station controller BSC 16 in Fig. 1 and col.25, lines 47-48, for the external controller for interfacing to external network.

Regarding **claim 12**, Sayers has taught above in claim 7 the method for source gatekeeper P-BTS 27 is an anchor gatekeeper, and all the handover request are routed though that anchor gatekeeper P-BTS.

Regarding **claim 13**, Sayers has taught above the method for the candidate list having the local area codes by using IP address his claim 11 above, and the cell identifiers (alias identifier, P-BTS identity, from Sayers.

Regarding **claim 14**, Sayers has taught above in claim 3 the handover, the external network handover above in between private and public network, and the gatekeeper, P-BTS, is

arranged to receive a control message packet from an interface unit (BSC 16 in Fig. 1; gateway 42-1/42-G in Fig. 4, in Sayers) from external network. Besides, Thomas also teaches the call forwarding in between network domain 12 and network domain 10 for the roaming user to visited gatekeeper (Fig. 1, abstract).

2. Claims 4, 6-7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers in view of Haga, as applied to claim 1 above, and further in view of Thomas et al. (US 6,421,339 B1).

Regarding **claim 4**, Sayers and Haga fail to teach the data defining network specific resourse is held at each gateway. However, Thomas et al. (Thomas) teaches in Fig. 1, the data defining network specific resources is held at each gateway, such as gateway 26 is defined for ISDN network, gateway 24 is defined for ATM network, and gateway 22 is defined for PSTN network. Thomas teaches gatekeeper 44 (Fig. 1), which is connected, via packet data network 30, R/GW 34/28 (Fig. 1, col. 3, lines 6-10), to gateways 24, 32, 26 for forwarding a call (title, abstract), the home gatekeeper authorizes roaming user with address and transient identity for call connection to other visited network (abstract; col. 6, line 60 to col. 7, line 45). Thomas teaches at least one gatekeeper 14 or 44 (Fig. 1), for call forwarding (title, abstract, figure in cover page). Thomas provides a technique to allow home gatekeeper to authorize the transient identity and address, such that the remote call can be efficiently connected, without traveling to the remote site (col. 2, lines 22-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers and Haga with Thomas's gateway, home gatekeeper for authorizing transient identity and address,

such that the remote call can be connected efficiently, without the traveling to the remote site.

Regarding **claim 6**, Thomas teaches the plurality of gatekeepers each controlling a set of gateway (Fig. 1), for the defining individual network zone for PSTN, ISDN, ATM. Referring to Sayers above for the handover, and the generating of packet at gatekeeper (serving P-BTS) for addressing to at least one other gatekeeper (target P-BTS) .

Regarding **claim 7**, Sayers teaches the anchor gatekeeper through which all handoff request are routed (in col. 11, lines 4-18, the gatekeeper provides functions for accessing to network, translation of called numbers, routing calls).

Regarding **claim 11**, Thomas taught above in claim 6 the method for the packet generated by the source gatekeeper P-BTS is addressed to target gatekeeper having the identity of the target gatekeeper P-BTS.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers in view of Haga, Thomas, as applied to claim 1 above, and further in view of Hannula et al. (US 6,366,893 B2).

Regarding **claim 5**, Sayers and Thomas fail to teach the data defining network specific resources defines a GSM specific end system information. However, Hannula et al. (also as Hannula in below) teaches the service gateway 10 has conversion 152 (Fig. 4) for interfacing to various payment protocols (abstract, figure in cover page, Fig. 1, Fig. 5-6), for the payment transactions. Hannula's system is for Pan European digital GSM system, as shown in col. 6, line 65 to col. 7, line 3). Hannula teaches the service gateway 10 is arranged to

perform the protocol conversion between the first payment interface and at least one further payment protocol interface (col. 8, line 66 to col. 9, line 2; col. 9, lines 61-64). Hannula's gateway protocol conversion can immediately provide the protocol interface conversion to many different protocols, such that the system can interface to different protocols with low cost (col. 1, line 42 to col. 2, line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers above, and to include Hannula's gateway protocol conversion to many different protocols, such that the system can interface to different protocols with low cost.

***Response to Arguments***

4. Applicant's arguments filed 3/29/04 have been fully considered but they are not persuasive.

Regarding applicant's argument based upon the argument for the no teachings for the gatekeeper connected to the gateway by a switched packet path; the transmitting of candidate list to gatekeeper for handover; the gatekeeper includes selection means for selecting one of the alternative cells in the candidate list (applicant's remark, page 6-7, page 11). The ground of rejection has been changed to include Haga (US 6,366,576 B1).

Regarding the gatekeeper connected to the gateway by a switched packet path, Haga teaches the gatekeeper connected to the gateway by a switched packet path (the gatekeeper GK is connected to GW1-GW2, Fig. 1-2, in the packet, switched, network/ intranet network, Fig. 1-4, Fig. 6, col. 3, lines 18-67).

Regarding the transmitting of candidate list to gatekeeper for handover, Haga teaches the automatic updating gateway routing table when each time a new gateway is introduced

into the network, for the automatic cost effective call routing, for the receiving of new candidate gateway for the cost effective optimized call routing, handover for optimizing call routing (col. 2, lines 29-34), the call routing, handover call, between a terminal in first telecommunication network and any terminal in an external telecommunication network, for the optimizing call routing, call handover, through different gateway, in different countries (abstract, Fig. 1-6).

Regarding the gatekeeper includes selection means for selecting one of the alternative gateways, in the candidate list (the gatekeeper selecting different gateway for automatic load distribution in col. 6, lines 3-12, the gatekeeper has database which contains the gateway routing table (Fig. 2-5; col. 3, lines 49-67; the gatekeeper selects the route path through gateway in Sweden, col. 4, lines 32-50).

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (703)-305-4385.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow C.C.

September 21, 2004.

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
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